

**Notice of Allowability**

Application No.	Applicant(s)	
10/614,129	HIRAI, NORIO	
Examiner	Art Unit	
Sunray Chang	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to April 13<sup>th</sup>, 2007.
2.  The allowed claim(s) is/are 1-5,7-18 and 20.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  
1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of  
Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application
6.  Interview Summary (PTO-413),  
Paper No./Mail Date 20070419.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

**Examiner's Amendment**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jason Rhodes on April 23<sup>rd</sup>, 2007, and a new paragraph for Abstract has been received on April 24<sup>th</sup>, 2007.

The application (Abstract) has been amended as follows to replace the prior version of Abstract in Specification.

**Abstract**

The present invention aims to control elements to improve operation efficiency of a plant based on a correlation value of the past accumulated data. According to the invention, an optimal operation controller obtains a correlation between a state of a predetermined process and each element based on an operation status of the plant to be controlled, storing the correlation in a correlation table, and compute an operation efficiency for each element based on the operation status of the plant. Also, the operation controller has a categorization efficiency table for storing the computed operation efficiency of the predetermined process. The operation controller refers to the categorization efficiency table based on a data input from the plant, and outputs an instruction to control the each element accordingly.

**Reason For Allowance**

1. This office action is in responsive to the “Request for Continued Examination” (RCE) filed on April 13<sup>th</sup>, 2007, and the amended claims filed on February 14<sup>th</sup>, 2007.

2. The following is an examiner’s statement of reasons for allowance:

- The claimed invention is an optimal operation controller of a plant for performing regression analysis to obtain a correlation between operative parameter and each elements based on an operation status of the plant to be controlled.
- The claimed method include a limitation “a categorization efficiency table for storing the operation efficiency of each operation element computed by the correlation analyzing unit in association with a highly correlative operative parameter of the predetermined process as determined by the regression analysis, wherein the categorization efficiency table further stores a relationship between the operation efficiency of each operation element and the overall efficiency of the predetermined process determined based on the data collected during the prior implementation”.
- The combination of prior art of record does not expressly disclose or suggest the “controller of a plant” with the feature of “a categorization efficiency table for storing the operation efficiency of each operation element computed by the correlation analyzing unit in association with a highly correlative operative parameter of the predetermined process as determined by the regression analysis, wherein the categorization efficiency table further stores a relationship between

the operation efficiency of each operation element and the overall efficiency of the predetermined process determined based on the data collected during the prior implementation”.

- The references of the records do not disclose or suggest “the categorization efficiency table further stores a relationship between the operation efficiency of each operation element and the overall efficiency of the predetermined process determined based on the data collected during the prior implementation” as claimed in the independent claims.
3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance”.
4. Claims 6 and 19 have been cancelled.  
Claims 1 – 5, 7 – 18 and 20 are deemed allowable.

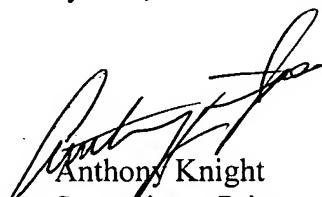
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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunray Chang who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. via telephone number (571) 272-3682 or facsimile transmission (571) 273-3682 or email sunray.chang@uspto.gov.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687.

The official facsimile transmission number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Knight  
Supervisory Primary Examiner  
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U.S. Patent and Trademark Office

April 25, 2007